

Home-Based Pulmonary Rehabilitation

BACKGROUND

Pulmonary rehabilitation (PR) is a multi-component evidence-based intervention that provides education, exercise, and social support for patients with pulmonary disease such as chronic obstructive pulmonary disease (COPD).¹ COPD is a major cause of morbidity and mortality within the Veteran population^{2,3} and Veterans living in rural locations have a higher occurrence of COPD.⁴ Pulmonary rehabilitation is a vital treatment for patients with COPD and has been proven to improve quality of life and function and reduce hospitalizations.⁵ Despite evidence, PR remains an underutilized service with only approximately 1.5% of eligible Veterans participating.⁶ Veterans eligible for PR encounter many barriers to accessing care, such as availability of programs within the U.S. Department of Veterans Affairs (VA) and community, distance to travel, and financial hardships. VA's Office of Rural Health (ORH) Home-Based Pulmonary Rehabilitation Program was developed to address the gap in access to PR services for Veterans.

METHODOLOGY

Eligible Veterans with chronic pulmonary disease are enrolled into the 12-week Home-Based Pulmonary Rehabilitation Program and receive individualized counseling from a PR provider by video and/or phone appointments. Veterans receive counseling on PR core components (e.g., understanding pulmonary disease, exercise, nutrition, stress management, medication adherence, tobacco cessation, and breathing techniques). Exercise equipment (i.e., pedal exerciser, pedometer, resistance bands) and educational materials are provided for the program. Veterans' functional and overall quality of life is assessed using PR standardized assessments at enrollment and completion of the program.

FOR MORE INFORMATION

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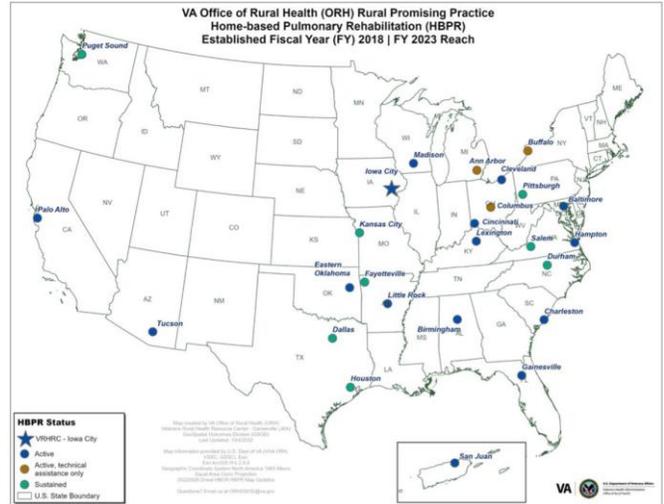
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IMPACT

- More than 3,200 Veterans have been enrolled since the start of the HBPR program.
- Currently, twenty five VA facilities are offering the HBPR model to eligible Veterans.
- Additional value was demonstrated during the coronavirus pandemic as the HBPR programs continued care for Veterans when on-site programs were closed. In addition, patients recovering from long COVID-19 can be referred to pulmonary rehabilitation services.
- Initial analysis of 285 HBPR participants⁷ demonstrated program effectiveness with significant improvements in dyspnea, depression, quality of life, and physical function (Table).
- Sixty-eight percent of Veterans showed improvements in self-reported dyspnea (Modified Medical Research Council) at completion.
- Seventy-seven percent of Veterans demonstrated improvement in quality of life (COPD Assessment Test).



Outcomes	Assessment	Pre (baseline)	Post (completion)	P Values
Dyspnea	mMRC	3.1 ± 1.1	1.9 ± 1.1	<.0001
Depression	PHQ-9	8.3 ± 5.7	6.4 ± 5.1	<.0001
Quality of Life	COPD Assessment Test	25.4 ± 7.7	18.7 ± 8.5	<.0001
Exercise Capacity	6-minute Walk Test (meters)	263.1 ± 96.6	311.0 ± 103.6	<.0001
Exercise Capacity	Duke Activity Status Index	13.8 ± 9.6	20.0 ± 12.7	<.0001

CONCLUSION

The Home-Based Pulmonary Rehabilitation program has helped address access to pulmonary services for Veterans. Initial HBPR results have demonstrated program effectiveness and safety. Next steps include additional research on participants' long-term outcomes.

FUNDING

Funding provided by the U.S. Department of Veterans Affairs (VA) Office of Rural Health. Visit www.ruralhealth.va.gov to learn more.

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U.S. Department of Veterans Affairs
Veterans Health Administration
Office of Rural Health

Revised July 2023